



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/672,534	09/26/2003	Greg A. Hupp	TI-36552	3721
23494 7590 12/24/2008 TEXAS INSTRUMENTS INCORPORATED P O BOX 655474, M/S 3999 DALLAS, TX 75265				
EXAMINER LAO, LUN S				
ART UNIT 2614		PAPER NUMBER		
NOTIFICATION DATE 12/24/2008		DELIVERY MODE ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

uspto@ti.com

### Office Action Summary

**Application No.**

10/672,534

**Applicant(s)**

HUPP, GREG A.

**Examiner**

LUN-SEE LAO

**Art Unit**

2614

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 September 2008.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9, 12 and 14-16 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-9, 12 and 14-16 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO/SB-08)  
Paper No(s)/Mail Date \_\_\_\_\_  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### *Introduction*

1. This action is response to the amendment filed on 09-12-2008. Claims 1, 2, 4-7, 9, 12, 14 and 16 have been amended and claims 10-11, 13 and 17-18 have been canceled. Claims 1-9, 12 and 14-16 are pending.

### *Claim Objections*

2. Claim 5 is objected to because of the following informalities: Claim 2 recited "the supervisory circuit detects the power used to drive the the audio amplifier and DAC is beyond a pre-determined limit" on line 11 page 4, which appears to be ~~the the~~. . . . Appropriate correction is required.

### *Specification*

3. The amendment filed 09-12-2008 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure and any figures is as follows: "[0014] Power for the circuits is provided by the power bus 116. A supervisory power circuit 134 monitors the power used by the circuit including the audio amplifier. The supervisory power circuit 134 signals the volume control circuit 136 when power sags below a pre-determined limit or threshold or when the power exceeds the specified or pre-determined limit. In this embodiment, the supervisor circuit monitors the voltage level. In

this embodiment, the supervisor power circuit is a TPS3825 part supplied by Texas Instruments Inc".

Applicant is required to cancel the new matter in the reply to this Office Action.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claim 2 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 2 recited "the pre-amplifier pre amplified audio circuit is a Digital-to-Analog Converter (DAC)" was not supported in the specification nor in any claim originary presented". The specification only discloses "FIGURE 1 illustrates a block diagram of an audio amplifier circuit 10 with automatic power foldback according to an embodiment of the present invention. A pre-amplifier circuit 12 (which may include a DAC) receives a data 14 and a power 16 signal. The pre-amplifier circuit outputs an enable signal 18 and a pre-amplified analog audio signal 20 to an amplifier 22. The amplifier 22 outputs audio signals 24, 26 for headphones and speakers (not shown)" on page 3 [0009]. However, the specification does not disclose the pre-amplifier pre

amplified audio circuit is a Digital-to-Analog Converter (DAC). It was not supported in the specification nor in any claim originary presented and any figures

6. Claims 5 and 12 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 5 recited limitation "a volume control circuit that activates at least one of the volume control inputs when the supervisory circuit detects the power signal used to drive the audio amplifier and DAC is beyond a pre-determined limit". However, the specification does not disclose how "the supervisory circuit detects the power signal used to drive the audio amplifier and DAC is beyond a pre-determined limit" will be performed. It was not supported in the specification nor in any claim originary presented and any figures.

Consider claim 12 it is essentially similar to claim 5 and is rejected for the reason stated above apropos to claim 5.

### ***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1-4 are rejected under 35 U.S.C. 102(e) as being anticipated by Yoon et al. (US PAT. 6,424,875).

Consider claim 1 Yoon teaches a circuit for amplifying an audio source, the circuit comprising:

an audio pre-amplifier(see fig.2 (11)) having volume control inputs(14), wherein the pre-amplifier receives the audio source(LS,RS) and receives power from a power source(30);

an audio amplifier (12) connected to the pre-amplifier pre amplified audio source(11) and the power source(30), the audio amplifier outputting an amplified audio signal;

a power supervisory circuit (30,50)that monitors power used by the audio amplifier(12) and pre-amplifier audio amplifier(11)(see col.5 line 19-col. 6 line 46); and

a volume control circuit (40)that activates at least one of the volume control inputs when the supervisory circuit detects the power signal-used the pre-amplifier and audio amplifier is beyond a pre-determined limit( see fig.3 and col. 6 line 47-col. 7 line 67).

Consider claim 2 as base on 112 first paragraph problem state above, Yoon teaches the pre-amplifier pre amplified audio circuit(see fig.2 (11)) is a Digital-to-Analog Converter (DAC) )(see col.5 line 19-col. 6 line 46).

Consider claims 3-4 Yoom teaches that the circuit wherein the volume control inputs are digital(see fig. 2 and col.5 line 19-col. 6 line 46); and the circuit wherein the

supervisory circuit detects whether a supply voltage to the amplifier falls below a pre-determined threshold( see figs.2-3 and col. 6 line 47-col. 7 line 67).

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-9, 12 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gulick (US 2001/0003166) in view of Yoon et al. (US PAT. 6,424,875).

Consider claim 1 Gulick teaches that an audio amplifier electrical circuit comprising:  
an audio pre-amplifier(see fig.5, (112 and fig.6 (212))) having volume control inputs(203), wherein the pre-amplifier receives the audio source(LS,RS) and receives power from a power source inherently (because by the USB port);

an audio amplifier (114 in fig.5) connected to the pre-amplifier pre amplified audio source(4) and the power source(30), the audio amplifier outputting an amplified audio signal;

a power supervisory circuit (110) that monitors power used by the audio amplifier(114 in fig.5) and pre-amplifier audio amplifier(see fig.5, (112 and fig.6 (212))); and

a volume control circuit (40) that activates at least one of the volume control inputs (see page 3 [0033]-page 4[0039]); but Gulick does not explicitly teach the supervisory circuit detects the power signal-used the pre-amplifier and audio amplifier is beyond a pre-determined limit.

However, Yoon teaches a volume control circuit (40) that activates at least one of the volume control inputs when the supervisory circuit detects the power signal-used the pre-amplifier and audio amplifier is beyond a pre-determined limit (see fig.3 and col. 6 line 47-col. 7 line 67).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Yoon into Gulick to provide a technique for controlling the power of an audio processor in a monitor.

Consider claims 2-3 Gulick teaches that the circuit of the pre-amplified audio circuit (see fig. 6 (212)) is a Digital-to-Analog Converter (DAC); and the circuit of the volume control inputs (203) are digital (see page 3 [0028]-[0031]).

Consider claim 4 Gulick as modified by Yoon teaches the circuit wherein the supervisory circuit detects whether a supply voltage supplying device power to the audio amplifier falls below a pre-determined limit (in Yoon, see figs.2-3 and col. 6 line 47-col. 7 line 67).

Consider claim 5 as based on 112 first paragraph problem state above Gulick teaches an audio amplifier system for driving computer speakers from a bus port of a personal computer (see fig.5), the system comprising:



a DAC having volume control inputs (see fig.6 (212)) and a bus interface, wherein the DAC is adapted to receive a digital audio signal through the bus interface and output an analog audio signal;

an audio amplifier ((see fig.5 (114)) that receives the analog audio signal from the DAC(see fig.5, (112 and fig.6 (212))), and outputs an amplified audio signal for driving speakers (116);

a power supervisory circuit(110 in fig.5) that monitors power used by the audio amplifier(114) and the DAC(see fig.5, (112 and fig.6 (212))); and

a volume control circuit (see fig.6 (208)) that activates the volume control inputs (see page 3 [0033]-page 4[0039]); but Gulick does not explicitly teaches the supervisory circuit detects the power used to drive the amplifier and the DAC is beyond a pre-determined limit.

However, Yoon teaches a volume control circuit (see fig.2 (40)) that activates the volume control inputs when the supervisory circuit (30,50) detects the power signal used to drive the amplifier and the pre-amplifier is beyond a pre-determined limit( see figs.2-3 and col. 6 line 47-col. 7 line 67).

Therefore, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to combine the teaching of Yoon into Gulick to provide a technique for controlling the power of an audio processor in a monitor.

Gulick as modified by Yoon teaches a volume control circuit that activates at least one of the volume control inputs when the supervisory circuit detects the power used to

drive the audio amplifier and DAC is beyond a pre-determined limit(see figs 5,6 and page 3 [0033]-page 4[0039]).

Consider claim 12 as base on 112 first paragraph problem state above Gulick teaches an audio amplifier system for driving computer speakers through a Universal Serial Bus (USB) port comprising(see fig.5):

a USB DAC (see fig.5, (112 and fig.6 (212))) having volume control inputs and a USB interface, wherein the USB DAC is adapted to receive a digital audio signal(102) and output an analog audio signal(116), and wherein the USB DAC is adapted to receive power through the USB port(112); an audio amplifier that receives the analog audio signal from the USB DAC(see fig.5, (112 and fig.6 (212)))

and that outputs an amplified audio signal for driving speakers(116), wherein the audio amplifier is adapted to receive power through the USB port; a power supervisory circuit (110) that monitors power used the audio amplifier (114) and the USB DAC(see fig.5, (112 and fig.6 (212))); and

a volume control circuit (see fig.6 (208)) that activates the volume control inputs (see page 3 [0033]-page 4[0039]); but Gulick does not explicitly teaches the supervisory circuit detects the power used to drive the amplifier and the USB DAC is beyond a pre-determined limit.

However, Yoon teaches a volume control circuit (see fig.2 (40)) that activates the volume control inputs when the supervisory circuit (30,50) detects the power signal used to drive the amplifier and the pre-amplifier is beyond a pre-determined limit( see figs.2-3 and col. 6 line 47-col. 7 line 67).

Therefore, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to combine the teaching of Yoon into Gulick to provide a technique for controlling the power of an audio processor in a monitor.

Gulick as modified by Yoon teaches a volume control circuit that activates at least one of the volume control inputs when the supervisory circuit detects the power used to drive the audio amplifier and the USB DAC is beyond a pre-determined limit (see figs 5,6 and page 3 [0033]-page 4[0039]).

Consider claim 15 Gulick teaches the system wherein the circuit of the volume control inputs (203) are digital (see page 3 [0028]-[0031]).

Consider claims 14 and 16 Gulick as modified by Yoon teaches the system wherein the volume control inputs are adapted to be actuated by user, and wherein the volume control circuit overrides a user actuation of the volume control inputs when the supervisory circuit detects the power signal provided by the power input of the bus port connection is beyond the pre-determined limit (in Yoon, see figs.2-3 and col. 6 line 47-col. 7 line 67). and the system wherein the supervisory circuit detects whether a supply voltage used to drive the audio amplifier falls below a pre-determined threshold (in Yoon, see figs.2-3 and col. 6 line 47-col. 7 line 67).

Consider claims 6-9 they are essentially similar to claims 14-16 and are rejected for the reason stated above apropos to claims 14-16.

### ***Response to Arguments***

11. Applicant's arguments with respect to claims 1-9, 12 and 14-16

have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Gulick (US PAT. 6,216,052) is cited to show other related automatic power foldback for audio applications.

14. Any response to this action should be mailed to:

Mail Stop \_\_\_\_ (explanation, e.g., Amendment or After-final, etc.)

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450  
Facsimile responses should be faxed to:  
**(571) 273-8300**  
Hand-delivered responses should be brought to:  
Customer Service Window  
Randolph Building  
401 Dulany Street  
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lao, Lun-See whose telephone number is (571) 272-7501. The examiner can normally be reached on Monday-Friday from 8:00 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin, can be reached on (571) 272-7848.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 whose telephone number is (571) 272-2600.

Lao, Lun-See  
/Lun-See Lao/  
Examiner, Art Unit 2615  
Patent Examiner  
US Patent and Trademark Office  
Knox  
571-272-7501  
Date 12-10-2008

/Vivian Chin/  
Supervisory Patent Examiner, Art Unit 2614